A lot of people know that Hatsune Miku's first English voicebank was recorded by the same voice actress that recorded her Japanese voicebank. Since her voice actress is a Japanese woman who didn't speak English at all for most of her life and had only just learned for the sake of the English voicebank, it would make sense that she would have a pretty thick Japanese accent. Along with some stilted default pronunciations, this can lead to some pretty unsatisfactory pronunciation. SOOO...I've crafted this guide to help you and others edit her phonemes in a satisfactory way and develop a pattern to make phoneme editing less of a royal pain! Let's get started.

Miku V4 English Pronunciation Guide For my guide on V4.

Accent-related things

Intrusive R (if bothersome)

Miku V3 English has a habit of pronouncing Rs in or between vowels. Some people are unbothered by this due to their own dialects, but in my dialect this type of thing doesn't really happen so I generally try to patch it. Here's what I've found helps:

For [O:], [@U], [u:], and [U], place a [w] after it/between it and the other vowel.
Between [V] or [{] and [l], [i:] or [e], if necessary, a short [aI] works pretty well.
Before [i:] or [I], you can put a [j] there or change the previous vowel to [aI], [eI], or [OI]. Not sure if this is common, haha.
You can also shorten/put a small [Sil] by the first vowel. To be honest sometimes blending into another vowel is even hard for a native speaker, so sometimes we just use glottal stops.
You could also use [h] between the two vowels. Unfortunately she doesn't have [h\], but [h] is the next best thing I suppose. It can sound weird but at least it's not an R I guess.
A small [j] or [w] can also occasionally come to the rescue in times of need.
Some vowel switches can also patch this up. For example, the phrase "yeah, I" lacks an intrusive R if you phonetically spell it [j e] [aI].

The Ls (of course)

Miku's ability to pronounce a clear L depends on what vowel or consonant comes before or after it. Here are some fixes:
[l] or [l0] to [w l]- doesn't always work but can work like a charm in certain situations, such as in words with [Q l].
[l] <-> [l0]- a classic fix.
She also has some trouble with Ls next to other consonants (e.g. "place" or "blink"). In that case usually swapping out [l] for [l0] yields better results.

Vowels

-[I] can sound like [i:] at times, in which case [I e] or just [e] are good replacements.
-Some wonky vowels can be fixed by changing the type of consonant before them- [th] <-> [t], [kh] <-> [k], etc.
Vowel switches if necessary:
[e]- [e {], [eI], [{]
[{]- [e]
[Q]- [V], [O:]
[O:]- [Q]
[aI]- [V] [i:], [{] [i:]
[eI]- [e] [i:]
[aU]- [{] [u:], [V] [u:]
[@]- see the notes on [V] I guess, it and [V] aren't that different
[u:]- [U], [u: w]
[U]- [u: w V]
[@U]- [O:], [O: w], [@U w]
[i:]- [I]
[I]- [I e], [e], [eI]
[V]- [V {], [Q]
[OI]- [O:] [i:]; do not use [@U] [i:] as that sounds like "owy"

R-colored vowels

-She has less trouble with @r than V4 does, but it can still occasionally be pronounced oddly.
-At times, @r and Q@ can actually sort of be exchanged for each other.
-e@ can occasionally be pronounced "eer", in which case [e e@] is a fix.
-If an R-colored vowel doesn't blend into another vowel well, put an R between them.
-At times R-colored vowels can also distort
I will repeat my consonant-related suggestion here: swapping the vowel "versions" (e.g. t/th, d/dh, k/kh, etc.) can occasionally fix R-colored vowels.

Possible vowel switches if necessary:
[@r]- [Q@], [O@], [U@], [V @r], [@r r]
[Q@]- [V r], [V @r], [@r], [Q r], [Q @r], [Q Q@]
[O@]- [O: @r], [O: Q@], [O: O@], [O: r], [@U r], [O: w r]
[e@]- [e e@], [e r], [e @r], [e Q@]
[I@]- [i: I@], [i: r], [i: @r]
[U@]- [u: @r], [u: r], [U r], [U @r], [U O@], [u: w r]

[V]

Miku does NOT like [V]. It's either pronounced normally, heavily nasalized, oddly warped, or R-colored. It's basically a chameleon. So here are my tips!

[V {]- can keep the "uh" sound consistent, especially in cases where she pronounces an "R" where she shouldn't. Used in the case of words like "just" and "up."
[Q]- If [V {] can't fix it, [Q] is the next best thing. I use it to fix things like her wonky pronunciation of [h V].
Also, if you're going to have her sing "ah", [V] [-] is generally a much better option than [V] [V], as it's less likely to warp all weird.

Choppy words

Not just an accent thing really, but it's not really a stylistic choice to fix them either, so…
My tip is to split the note in two. If you're not using Piapro Studio where you can just use a note-splitting tool, just make the note half its length and then make another note next to it to about the previous note's former length. As you would expect, I suppose. But doing so elongates the vowel and makes the pronunciation less...short, I guess.

Stylistic things

Pronunciation "casualization" (casualisation if you don't speak american english)

It's a pretty common practice, but replacing "t"s with "d"s, adding glottal stops (with a gap between notes or [Sil] if the gap is too small), adjusting velocity and the like can definitely add human character to your vocals. Some other things-

Spicing up a "t" or "d" by turning it into "ts" or "dz", preferably with high velocity, for emphasis/humanization
The magic of "ch", "j", "sh"- as in [h @r] [dZ u:] instead of [h @r d] [j u:] for "heard you" for example
I don't generally do this but putting a "y" sound after a hard consonant could potentially add some character? As in [k j { n t] for "can't"
Putting an "h" at the end of vowels as well as R-colored vowels. Miku handles this pretty well. (some other engloids don't, haha. I guess it's in exchange for Miku's own h's sounding weird at times.)